



OSMM&N File No. 0660-0139-0XPCT

Dept.: Chemical

By: NFO/DJP/km

Serial No. 09/125,031

In the matter of the Application of: SHIRLEY LONGACRE-ANDRE ET AL

For: RECOMBINANT PROTEIN CONTAINING A C-TERMINAL FRAGMENT  
OF PLASMODIUM MSP-1

Due Date: March 3, 2005

The following has been received in the U.S. Patent Office on the date stamped hereon

- Dep. Acct. Order Form
- PTO Cover Letter
- Amendment



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Docket No. 0660-0139-0XPCT

IN RE APPLICATION OF: SHIRLEY LONGACRE-ANDRE ET AL

SERIAL NO: 09/125,031

FILED: MARCH 10, 1999

FOR: RECOMBINANT PROTEIN CONTAINING A C-TERMINAL  
FRAGMENT OF PLASMODIUM MSP-1

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

Transmitted herewith is an amendment in the above-identified application.

- ☒ No additional fee is required
- ☐ Small entity status of this application under 37 C.F.R. §1.9 and §1.27 is claimed.
- ☐ Additional documents filed herewith:

The Fee has been calculated as shown below:

| CLAIMS      | CLAIMS<br>REMAINING |  | HIGHEST<br>NUMBER<br>PREVIOUSLY<br>PAID | NO.<br>EXTRA<br>CLAIMS | RATE      | CALCULATIONS |
|-------------|---------------------|--|---|------------------------|-----------|--------------|
| TOTAL       | 13                  | MINUS  | 39                                      | 0                      | x \$50 =  | \$0.00       |
| INDEPENDENT | 8                   | MINUS  | 13                                      | 0                      | x \$200 = | \$0.00       |
|             |                     | <input type="checkbox"/> MULTIPLE DEPENDENT CLAIMS                   |   |                        | + \$360 = | \$0.00       |
|             |                     | TOTAL OF ABOVE CALCULATIONS  |   |                        |           | \$0.00       |
|             |                     | <input type="checkbox"/> Reduction by 50% for filing by Small Entity |   |                        |           | \$0.00       |
|             |                     | <input type="checkbox"/> Recordation of Assignment                   |   |                        | + \$40 =  | \$0.00       |
|             |                     | TOTAL  |   |                        |           | \$0.00       |

- ☐ A check in the amount of \$0.00 is attached.
- ☐ Credit card payment form is attached to cover the fees in the amount of \$0.00
- ☒ Please charge any additional Fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit Account No. 15-0030. A duplicate copy of this sheet is enclosed.
- ☒ If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time may be charged to Deposit Account No. 15-0030. A duplicate copy of this sheet is enclosed.

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DOCKET NO: 0660-0139-0XPCT



IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :

SHIRLEY LONGACRE-ANDRE ET AL : EXAMINER: GRUN

SERIAL NO: 09/125,031 :

FILED: MARCH 10, 1999 : GROUP ART UNIT: 1641

FOR: RECOMBINANT PROTEIN :  
CONTAINING A C-TERMINAL  
FRAGMENT OF PLASMODIUM MSP-1

AMENDMENT

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

In response to the Office Action dated December 3, 2004, please amend the above-identified application as follows:

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 5 of this paper.

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IN THE CLAIMS

Please amend the claims as follows:

Claims 1- 54 (Cancelled).

55. (Allowed): A baculovirus vector selected from the group consisting of PfMSP1p19A deposited at the CNCM under No. I-1661, PfMSP1p19S deposited at the CNCM under No. I-1662, and PcMSP1p19S deposited at the CNCM under No. I-1663.

Claims 56-66 (Cancelled)

67. (Allowed): A baculovirus vector comprising:

- (a) a promoter;
- (b) a synthetic polynucleotide comprising a synthetic sequence encoding a 19 kilodalton C-terminal fragment of a *Plasmodium falciparum* merozoite surface protein 1 (MSP-1) having a GC content of between 40% to 60%, and a glycosylphosphatidylinositol anchor coding sequence from a CD59 gene or a CD14 gene; and
- (c) a polynucleotide encoding a signal sequence of a *Plasmodium vivax* MSP-1 protein.

68. (Allowed): A baculovirus vector comprising a promoter and a synthetic nucleotide sequence comprising SEQ ID NO: 7.

69. (Allowed): A baculovirus vector comprising:

- (a) a promoter;
- (b) a synthetic polynucleotide of a sequence SEQ ID NO:9 encoding a 19 kilodalton C-terminal fragment of a *Plasmodium falciparum* merozoite surface protein 1 (MSP-1) and having a GC content of 40% to 60%; and
- (c) a polynucleotide encoding a signal peptide of a *Plasmodium* MSP-1 protein.

70. (Allowed): A baculovirus vector comprising:

- (a) a promoter;

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- (b) a synthetic polynucleotide consisting essentially of a sequence SEQ ID NO:1 encoding a 19 kilodalton C-terminal fragment of a *Plasmodium falciparum* merozoite surface protein 1 (MSP-1) and having a GC content of 40% to 60%, and a glycosylphosphatidylinositol anchor coding sequence; and
- (c) a polynucleotide encoding a signal peptide of a *Plasmodium* MSP-1 protein.

71. (Allowed): The baculovirus vector of Claim 70, wherein said glycosylphosphatidylinositol anchor coding sequence is from a CD59 gene or a CD14 gene.

72. (Allowed): The baculovirus vector of Claim 70, wherein said synthetic polynucleotide is SEQ ID NO:4.

73. (Allowed): The baculovirus vector of Claim 69, wherein said synthetic polynucleotide and said polynucleotide encoding a signal peptide comprise SEQ ID NO:7.

Claim 74 (Cancelled).

75. (Allowed): A baculovirus vector comprising:

- (a) a promoter;
- (b) a synthetic polynucleotide consisting essentially of a sequence SEQ ID NO:1 encoding a 19 kilodalton C-terminal fragment of a *Plasmodium falciparum* merozoite surface protein 1 (MSP-1) and having a GC content of 40% to 60%, and a sequence encoding a *Plasmodium vivax* Duffy binding protein or a *Plasmodium falciparum* EBA-175 protein; and
- (c) a polynucleotide encoding a signal peptide of a *Plasmodium* MSP-1 protein.

Claims 76-80 (Cancelled).

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81. (Currently Amended): A synthetic polynucleotide comprising a synthetic sequence encoding a 19 kilodalton C-terminal fragment of a *Plasmodium falciparum* merozoite surface protein 1 (MSP-1) having a total GC content of 40% to 60%, wherein said synthetic sequence is contained in a baculovirus vector selected from the group consisting of

PfMSP1p19A deposited at the CNCM under No. I-1661 and PfMSP1p19S deposited at the CNCM under No. I-1662~~The synthetic polynucleotide of Claim 76~~, wherein said synthetic polynucleotide further comprises a polynucleotide encoding a signal peptide of a *Plasmodium* MSP-1 protein.

Claims 82-83 (Cancelled)

84. (Allowed): A baculovirus vector comprising:

- (a) a promoter;
- (b) a synthetic polynucleotide comprising a synthetic sequence encoding a 19 kilodalton C-terminal fragment of a *Plasmodium falciparum* merozoite surface protein 1 (MSP-1) and having a GC content of 40% to 60%; and
- (c) a polynucleotide encoding a signal sequence of a *Plasmodium vivax* MSP-1 protein,

wherein said synthetic sequence is contained in a baculovirus vector selected from the group consisting of PfMSP1p19A deposited at the CNCM under No. I-1661 and PfMSP1p19S deposited at the CNCM under No. I-1662.

85. (Allowed): The baculovirus vector of Claim 84, wherein said synthetic polynucleotide further comprises a glycosylphosphatidylinositol anchor coding sequence.

86. (Allowed): The baculovirus vector of Claim 85, wherein said glycosylphosphatidylinositol anchor coding sequence is from a CD59 gene or a CD14 gene.

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REMARKS/ARGUMENTS

Applicants thank the Examiner for indicating that Claims 55, 67-73, 75 and 84-86 are allowed and that Claims 47, 49-53 and 81 would be allowable if amended to include the limitations of the base claim and intervening claims. Upon entry of the amendment submitted, Claims 55, 67-73, 75, 81 and 84-86 are active in this application. Claim 81 has been amended to independent form to include all of the limitations of the base claim and intervening claims. No new matter has been added.

Accordingly, withdrawal of the rejections under 35 U.S.C. § 112, first paragraph and 35 U.S.C. § 103(a) is requested.

Applicants also request a Notice of Allowance.

Respectfully submitted,

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